

FINANCIAL ASSISTANCE FUNDING OPPORTUNITY ANNOUNCEMENT



**U.S. Department of Energy
Golden Field Office**

Advanced Water Power

Funding Opportunity Announcement Number: DE-FOA-0000069

Announcement Type: Amendment 000002

CFDA Number: 81.087

Issue Date: 04/08/2009

Letter of Intent Due Date, Topic Areas 1, 2 & 3: 05/06/2009, 11:59 PM Eastern Time

Note: Only those Applicants who submitted a letter of intent are eligible to submit final applications under this announcement for Topic Areas 1, 2 & 3. Letters of intent are not required for Topic Areas 4, 5 & 6.

Application Due Date, Topic Areas 1, 2 & 3: 06/04/2009, 11:59 PM Eastern Time

Application Due Date, Topic Areas 4, 5 & 6: 06/18/2009, 11:59 PM Eastern Time

PLEASE NOTE:

Applicants who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. For those Applicants already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

Questions regarding the content of this announcement must be submitted through FedConnect. Applications must be submitted through FedConnect to be considered for award. You must be completely registered before you can submit questions regarding this announcement or submit an application.



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

DE-FOA-0000069
Amendment 000002

DATE: May 15, 2009
FROM: Sara Wilson, Contracting Officer
TO: All Prospective Applicants

SUBJECT: Amendment 000002 to Announcement DE-FOA-0000069,
"Advanced Water Power"

The purpose of this amendment is to add Topic Areas 4, 5 and 6 to the Funding Opportunity Announcement. Therefore, the Announcement is modified as follows:

- 1) In **Part I – FUNDING OPPORTUNITY DESCRIPTION**, paragraphs 8 and 9 are deleted and replaced with the following:

Note: For Topic Areas 1, 2, and 3 only, this Funding Opportunity Announcement includes two phases – letter of intent phase and a final application phase. **Only those Applicants who submit to the letter of intent phase are eligible to submit final applications for Topic Areas 1, 2, and/or 3 under this announcement. Topic Areas 4, 5, and 6 do not require letters of intent.**

There will be six separate competitions for funds (Topic Areas):

1. Marine and Hydrokinetic Energy Conversion Device or Component Design and Development
2. Marine and Hydrokinetic Site-specific Environmental Studies/Information
3. Advanced Water Power Market Acceleration Projects/Analysis and Assessments
4. Hydropower Grid Services
5. Studies of Environmental Effectiveness
6. University-Based Hydropower Research Program

- 2) In **Part I – FUNDING OPPORTUNITY DESCRIPTION**, the Topic Area Summary table is deleted and replaced with the following:

Topic Area Summary

Topic Area	Period of Performance	Expected Number of Awards	Total Estimated Federal Funding*	Estimated FY09 Federal Funding*	Estimated 1 st Year Award per Application (DOE Share)	Estimated Range per Award (Total Federal Funding)*	Required Cost Share	Estimated Recipient Cost Share per Year
1. Marine and Hydrokinetic Energy Conversion Device or Component Design and Development	2 years	Up to 7	\$10 million	\$5 million	Up to \$0.75 million	Up to \$1.5 million	50%	Up to \$0.75 million
2. Marine and Hydrokinetic Site-specific Environmental Studies/Information	2 years	Up to 6	\$3 million	\$3 million	Up to \$0.6 million	Up to \$0.6 million	0%	No Cost Share
3. Advanced Water Power Market Acceleration Projects /Analysis and Assessments	2 years	Up to 6	\$4 million	\$4 million	3A: \$0.5 million 3B: \$0.5 million 3C: \$0.5 million 3D: \$0.5 million 3E: \$0.5 million 3F: \$1 million	3A: \$0.5 million 3B: \$0.5 million 3C: \$0.5 million 3D: \$0.5 million 3E: \$0.5 million 3F: \$1 million	0%	No Cost Share
4. Hydropower Grid Services	2 years	One	\$3 million	\$1.5 million	\$1.5 million	\$3 million	20%	\$300,000
5. Environmental Mitigation Effectiveness	2 years	Up to 6	\$4.5 million	\$1.5 million	\$250,000	\$0.75 million	20%	\$50,000
6. University Hydropower Research Program	3 years	One	\$2.5 million	\$1 million	\$1 million	\$2.5 million	0%	No Cost Share

- 3) In **PART II – TOPIC AREA DETAILS**, the following new Topic Areas 4, 5 and 6 are inserted after Topic Area 3:

Topic Area 4: Hydropower Grid Services

AWARD INFORMATION

A. BACKGROUND

The Department of Energy is soliciting applications from industry-led partnerships that propose to develop new methods to quantify and maximize the benefits that conventional hydropower and pumped-storage hydropower (PSH) provide to transmission grids. New information on hydropower's ancillary

benefits will help determine the appropriate level and direction of investments in new developments and technologies, in increasing hydropower's capability to balance other intermittent renewables into the grid, and in improving market structures to account for hydropower's contributions to stable and secure transmission systems.

DOE funding will be provided to develop new methods to assess hydropower's ancillary benefits and their value to the national energy portfolio, with particular emphasis on the integration of variable renewable energy. Research should focus on development and demonstration of methods for quantifying the benefits and costs of both existing and expanded grid services from water power, such as predictive models of hydropower's current and potential value to transmission systems, including models of alternative modes of operation at levels ranging from individual generation units to large-scale, integrated power systems. The research should also investigate how different power marketing structures affect the costs, benefits, and development decisions of advanced technologies. Such technologies may include new pumped storage projects and control technologies optimized for sub-hourly power system services and peak-shaving, optimization-based automated generation controls (AGC), advanced pump-back retrofits for conventional hydropower projects, variable-speed pumps and generators to improve water-use efficiency and operating costs, and scalable-capacity technology to store and recover energy in domestic water distribution systems and irrigation systems. Products from this study should include a new data set on the total cost and elements of cost of different types of PSH, as well as an analysis of the policy implications of different market structures on development. Partnering is strongly encouraged with DOE FFRDCs, other private industry, federal agencies, non-governmental organizations, and/or university centers of expertise.

B. TYPE OF AWARD INSTRUMENT

- DOE anticipates awarding grants under this funding opportunity announcement.

C. ESTIMATED FUNDING

- Approximately \$1.5 million is expected to be available for new awards in FY 2009 and an additional \$1.5 million is expected to be available for awards made under this Topic Area in FY 2010 (subject to available appropriations).

D. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this Topic Area): \$1.5 million
- Floor (i.e., the minimum amount for an individual award made under this Topic Area): none

E. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 1 award under this Topic Area, depending on the size of the awards.

F. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be in the \$2.5 million to \$3.0 million range for the total project period. The funds will be appropriated on an annual basis (up to \$1.5 million per year).

G. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 2 years.

H. TYPE OF APPLICATION

- Only new applications will be accepted under this announcement (i.e., applications for renewals of existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

- Eligibility for Topic Area 4 is restricted to industry or university-led partnerships with at least one university, national laboratory, or other partner. The industry lead can be a technology developer, private utility, public municipal or cooperative utility, environmental or engineering consulting company, or a research institute. Partnerships with additional industry members, universities, or National Laboratories are strongly encouraged.

B. COST SHARING

- The cost share must be at least 20% of the total allowable costs for research and development projects (total allowable cost equals the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share) and must come from non-Federal sources unless otherwise allowed by law.

C. OTHER ELIGIBILITY REQUIREMENTS

- **Federally Funded Research and Development Center (FFRDC) Sub-awardees**
FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project, and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award. Save the authorization in a single file named "FFRDC_Auth.pdf," and click on "Add Optional Other Attachment" to attach.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory."

DOE prefers that the authorization is submitted with the application; however the authorization will be accepted up to 30 days after the FOA closing date for this Topic Area. If the authorization is not submitted with the application, please submit written notification with the application, stating that the authorization from the cognizant FFRDC contracting officer is in progress and will be submitted no later than 30 days after the FOA closing date for this Topic Area.

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PIs (See Part III). The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction
- Publications
- Intellectual property issues
- Communication plans
- Procedures for resolving conflicts
- PIs' roles and administrative, technical and scientific responsibilities for the project

APPLICATION REVIEW INFORMATION

A. REVIEW CRITERIA

Initial Review Criteria

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

1. Merit Review Criteria

The following criteria are proposed to be used to evaluate Applications within Topic Area 4: Hydropower Grid Services

Criterion 1: Technical Merit and Innovation

Weight: [30%]

- Ability of the proposed plan to accurately quantify the value of existing hydropower generation for the stability and flexibility of the U.S. electric grid, and its capacity to integrate variable generation.
- The degree to which the proposed plan will identify specific areas where new investments, policies, or regulations can increase the value of hydropower to the grid and monetize this value.
- Degree to which application is based on sound principles and defensible assumptions; including how well the application demonstrates a clear understanding of the current state of the science.

Criterion 2: Technical Approach and Project Research Plan

Weight: [30%]

- Degree to which proposed plan is clearly stated, organized, achievable and technically feasible, including the adequacy and completeness of proposed tasks and the resources identified to successfully address all elements of the technical plan.
- Adequacy of the identification and assessment of critical success factors, risks and barriers, as well as plans for mitigation (to include both technical and environmental risk mitigation).
- Viability, completeness, and timeliness of applicant's decision points and/or deliverables in ensuring objective evaluation of progress against the proposed plan.

Criterion 3: Qualifications and Resources

Weight: [25%]

- Capabilities, experience, qualifications, and credentials of team members, including the applicant's team experience and record of success in technical innovation and performance.
- Availability of required equipment, laboratory and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.
- Demonstrated support of each team member's participation and/or cost share via letter of commitment.

Criterion 4: Development or Commercialization Plan

Weight: [15%]

- Quality, completeness, and probability of success of the project management plan for coordinating research activities among team members and organizations.
- Level, variety, and comprehensiveness of plan to disseminate results of research to others in the industry (may include conferences, papers, workshops, and web-based information sharing), including likelihood that project will result in technology deployment and commercial development – proposal should contain a clear explanation of intended market impact by 2015.

2. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

1. Breadth and depth of teaming arrangements
2. Cost Share above the minimum required

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the “Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals.” This guide is at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that the documents (Project Abstract and Project Narrative file) that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

2. Selection

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying applicants selected for award by 08/30/2009 and making awards by 09/30/2009.

OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by anyone other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data will be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to

conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to ensure the commercialization of technology developed under a DOE agreement.

Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. Generally, the provision entitled, Rights in Data – Programs Covered under Special Protected Data Statutes, (10 CFR 600 Appendix A to Subpart D), would apply to an award made under this announcement. This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and will also identify data that will be recognized by the parties as protected data.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award

Topic Area 5: Environmental Mitigation Effectiveness

AWARD INFORMATION

A. BACKGROUND

The current regulatory processes for conventional hydropower development, relicensing, and reoperation require that project owners monitor and mitigate adverse impacts to a wide range of environmental resources, including flow regimes and downstream habitats, water quality, reservoir levels, fish passage and protection, watershed protection, management of threatened/endangered species, cultural resource protection, and recreation. Requirements placed on hydropower facilities in order to address these impacts constitute a major cost to the industry, and in many cases dramatically reduce both the amount of energy that can be generated as well as the dispatchability and value of that generation. These flexibility constraints may severely limit the ability of hydroelectric generation to help integrate variable resources and provide stability to the grid. At the same time, too little information exists regarding the effectiveness of certain commonly-used mitigation techniques and benefits and costs of alternative approaches.

DOE is soliciting industry-led projects to monitor and evaluate the effectiveness of novel approaches to environmental impact mitigation at U.S. hydroelectric facilities. The projects selected will assess and evaluate a specific mitigation strategy at an existing hydropower facility. The strategy to be evaluated should utilize technologies or methodologies not widely used at the present, but have been employed at an existing hydroelectric facility within the last two years or will be employed within the first year of the project period. The application should describe the value of the information that will be collected, both to the specific project in question and to the advancement of the industry as a whole. Projects are encouraged that require additional monitoring data for a licensing or certification process. Successful applicants will demonstrate 1) a convincing rationale for why the proposed strategy is likely to be more effective and efficient than traditional mitigation measures, in terms of increasing generation quantity and value, reducing overall environmental impacts, lowering costs, and/or increasing water-use efficiency; and 2) that the proposed strategy is widely applicable across the industry, and if proven effective, it will increase the effectiveness and efficiency of mitigation efforts across the industry. Partnerships are encouraged with other industry members, national laboratories, and/or universities. Participation of state or federal natural resource agencies is also desirable.

DOE funding provided to the selected projects may be used for pre- and/or post-project monitoring, plus for final reports and dissemination of the results. Comparisons among projects and alternative mitigation approaches are encouraged as a means to identify best practices.

B. TYPE OF AWARD INSTRUMENT

- DOE anticipates awarding grants under this funding opportunity announcement.

C. ESTIMATED FUNDING

- Approximately \$1.5 million is expected to be available for new awards in FY2009 and an additional \$3 million is expected to be available for awards made under this Topic Area in FY 2010 (subject to available appropriations).

D. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this Topic Area): \$0.75 million
- Floor (i.e., the minimum amount for an individual award made under this Topic Area): none

E. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 6 awards under this Topic Area, depending on the size of the awards.

F. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be in the \$0.5 - \$0.75 million range for the total project period.

G. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 2 years.

H. TYPE OF APPLICATION

- Only new applications will be accepted under this announcement (i.e., applications for renewals of existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION**A. ELIGIBLE APPLICANTS.**

- Eligibility for Topic Area 5 is restricted to industry members or industry-led partnerships. The industry lead or industry member can be a technology developer, private utility, public municipal or cooperative utility, environmental or engineering consulting company, or a research institute. Partnerships with additional industry members, universities, or National Laboratories are strongly encouraged.

B. COST SHARING

- The cost share must be at least 20% of the total allowable costs for research and development projects (total allowable cost equals the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share) and must come from non-Federal sources unless otherwise allowed by law.

C. OTHER ELIGIBILITY REQUIREMENTS

- **Federally Funded Research and Development Center (FFRDC) Sub-awardees**
FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award. Save the authorization in a single file named "FFRDC_Auth.pdf," and click on "Add Optional Other Attachment" to attach.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project, and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory.”

DOE prefers that the authorization is submitted with the application; however the authorization will be accepted up to 30 days after the FOA closing date for this Topic Area. If the authorization is not submitted with the application, please submit written notification (with the application), stating that the authorization from the cognizant FFRDC contracting officer is in progress and will be submitted no later than 30 days after the FOA closing date for this Topic Area.

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant’s cost share requirement will be based on the total cost of the project, including the applicant’s and the FFRDC contractor’s portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant’s and the FFRDC contractor’s portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PIs (See Part III). The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a “Coordination and Management Plan” that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction
- Publications
- Intellectual property issues
- Communication plans
- Procedures for resolving conflicts

- PIs' roles and administrative, technical and scientific responsibilities for the project

APPLICATION REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Applications within
Topic Area 5: Environmental Mitigation Effectiveness

Criterion 1: Technical Merit and Innovation

Weight: [30%]

- Likelihood that the proposed project will demonstrate a mitigation strategy that increases generation quantity and value, reduces overall environmental impacts, lowers costs, and/or increases water-use efficiency at the site in question.
- Usefulness of the data collected to help increase the effectiveness and efficiency of mitigation efforts across the industry.
- Usefulness of the data collected to assist in the licensing or certification of the project in question.

Criterion 2: Technical Approach and Project Research Plan Weight: [30%]

- Degree to which proposed plan is clearly stated, organized, achievable and technically feasible, including the adequacy and completeness of proposed tasks and the resources identified to successfully address all elements of the technical plan.
- Adequacy of the identification and assessment of critical success factors, risks and barriers, as well as plans for mitigating both technical and environmental issues identified.
- Adequacy of plan to work closely with relevant Federal, State and local agencies, as well as the local community at the deployment site, as appropriate.

Criterion 3: Qualifications and Resources

Weight: [25%]

- Capabilities, experience, qualifications, and credentials of team members with participation and/or cost share, including the applicant's team experience and record of success in technical innovation and performance.

- Specific experience in the identification and analysis of the potential environmental, socio-economic, and recreational impacts of marine and/or hydrokinetic devices and arrays.
- Availability of required equipment, laboratory and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.

Criterion 4: Distribution of Results

Weight: [15%]

- Comprehensiveness of plan to disseminate results of research to others in the water power industry (may include conferences, papers, workshops, and web-based information sharing) in a timely manner (i.e. publications, technical presentations, and patent filings).

3. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

1. Geographic diversity of projects
2. Technological diversity of projects
3. Cost Share above the minimum required
4. Significance of environmental considerations
5. Breadth and depth of teaming arrangements

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that the documents (Project Abstract and Project Narrative file) that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

2. Selection

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying applicants selected for award by 08/30/2009 and making awards by 09/30/2009.

OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to insure the commercialization of technology developed under a DOE agreement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or

support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

Topic Area 6: University Hydropower Research Program

AWARD INFORMATION

A. BACKGROUND

Academic research activities and graduate training opportunities related to conventional hydropower have been stagnant or declining in the U.S. in recent years. DOE intends to stimulate new academic interest and support for research into the area of conventional hydropower by establishing a fellowship program to support graduate students and faculty members engaged in work directly relevant to the hydropower industry.

DOE is soliciting proposals to establish and manage a competitive fellowship program to support graduate students undertaking a dissertation on topics connected with conventional hydropower or pumped storage hydropower (PSH). Students would submit competitive proposals to a selection panel, and funding would be provided to the university to pay for the selected students' tuition, research expenses, and a monthly stipend. Research would be supervised by a faculty member who may also receive limited financial support. When students have successfully completed their dissertations, they would present their results at a mutually agreed-upon event. In addition, the program should propose a method for collecting the results of funded-research and disseminating it across the industry, policymakers, and general public.

The successful applicant to this Topic Area will propose a program designed to effectively stimulate new interest among academic institutions and their students and research faculty in conventional hydropower issues, generate new knowledge and technology from the research conducted, and produce a new generation of engineers and scientists to work in this field for decades to come. The selected organization will receive DOE funding and be expected to contract directly with universities. Direct experience in the hydropower industry is an advantage, but not required. Proposals should identify how the program will be implemented, including plans for broad public awareness of the program to attract attention and stimulate student applications. Proposals will be favored that demonstrate a clear plan to attract other sources of funding to leverage DOE support and increase the size and scope of the fellowship program over time.

B. TYPE OF AWARD INSTRUMENT

- DOE anticipates awarding grants under this funding opportunity announcement.

C. ESTIMATED FUNDING

- Approximately \$1 million is expected to be available for new awards in FY2009, with additional funding available in FY2010 and FY2011 (subject to appropriations).

D. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this Topic Area):
\$3 million
- Floor (i.e., the minimum amount for an individual award made under this Topic Area):
none

E. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 1 award under this Topic Area.

F. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be in the \$2.5-\$3 million range.

G. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 3 years.

H. TYPE OF APPLICATION

- Only new applications will be accepted under this announcement (i.e., applications for renewals of existing DOE funded projects will not be considered)

ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

- Eligibility for Topic Area 6 is restricted to universities, research institutes, foundations or non-profit organizations or institutes.

B. COST SHARING

- Cost sharing is not required.

C. OTHER ELIGIBILITY REQUIREMENTS

- **Federally Funded Research and Development Center (FFRDC) Sub-awardees**

FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project, and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award. Save the authorization in a single file named "FFRDC_Auth.pdf," and click on "Add Optional Other Attachment" to attach.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory."

DOE prefers that the authorization is submitted with the application; however the authorization will be accepted up to 30 days after the FOA closing date for this Topic Area. If

the authorization is not submitted with the application, please submit written notification (with the application), that the authorization from the cognizant FFRDC contracting officer is in progress and will be submitted no later than 30 days after the FOA closing date for this Topic Area.

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PIs (See Part III). The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction
- Publications
- Intellectual property issues
- Communication plans
- Procedures for resolving conflicts
- PIs' roles and administrative, technical and scientific responsibilities for the project

APPLICATION REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that

(1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Applications within
Topic Area 6: University Hydropower Research Program

Criterion 1: Technical Merit and Innovation

Weight: [30%]

- Viability of the proposed fellowship management plan, including the selection of appropriate research fields, the number of students to be supported, proposed student review processes and criteria, integration and support of faculty members and university departments, and plans to attract student interest and stimulate high-quality applications.
- Likelihood that the project will stimulate interest among academic institutions in conventional hydropower issues, generate new knowledge and technology from the research conducted, and encourage funding recipients to continue working in the hydropower field.
- The degree to which the project demonstrates a clear and viable plan to secure future support from the hydropower industry or other organizations to contribute to and expand the size and/or scope of the fellowship.

Criterion 2: Technical Approach and Project Research Plan

Weight: [30%]

- Degree to which proposed project implementation plan is clearly stated, organized, achievable and technically feasible, including the adequacy of proposed tasks, decision points and the resources identified to successfully address all elements of the technical plan with evaluation of progress against the proposed plan.
- Adequacy of the identification and assessment of critical success factors, risks and barriers, as well as plans for mitigating both technical and environmental issues identified.

Criterion 3: Qualifications and Resources

Weight: [25%]

- Capabilities, experience, qualifications, and credentials of applicant, including any team members, to administer a fellowship program, with an advantage to applicants or teams that bring experience in the hydropower industry.
- Availability of required equipment, laboratory and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.

Criterion 4: Distribution of Results

Weight: [15%]

- Degree to which applicant's plan would effectively compile and disseminate results of student projects funded through this program to other students and to the hydropower

industry.

- Degree to which applicant's plan would facilitate ongoing interactions among funding recipients across universities, and between students, faculty members, and members of the hydropower industry.

3. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

1. Cost Share above the minimum required.
2. Breadth and depth of teaming arrangements

B. REVIEW AND SELECTION PROCESS

A. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that the documents (Project Abstract and Project Narrative file) that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

B. Selection

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

C. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying applicants selected for award by 08/30/2009 and making awards by 09/30/2009.

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Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

[End of additional Topic Area text]

- 4) In **PART III – APPLICATION AND SUBMISSION INFORMATION (ALL TOPIC AREAS)**, Section B. LETTER OF INTENT AND PRE-APPLICATION, the first sentence of the first paragraph is changed to read, “Only those Applicants who have submitted a letter of intent for Topic Areas 1, 2, and/or 3 are eligible to submit final applications under Topic Areas 1, 2, and/or 3 under this announcement”. In addition, the last sentence of the first paragraph is deleted and replaced with the following two sentences: “Applicants who have not submitted a letter of intent for Topic Areas 1, 2 and/or 3 **only** will not be considered for an award. Letters of Intent are **not** required for Topic Areas 4, 5 and 6.”

- 5) In **PART III – APPLICATION AND SUBMISSION INFORMATION (ALL TOPIC AREAS)**, Section C. CONTENT AND FORM OF APPLICATION, the first paragraph is deleted and replaced with the following:

The Application forms are provided as separate attachments to this Funding Opportunity Announcement (on FedConnect) and are also found at <http://www.grants.gov>.

- 6) In **PART III – APPLICATION AND SUBMISSION INFORMATION (ALL TOPIC AREAS)**, Section E. SUBMISSION DATES AND TIMES, the first paragraph is deleted and replaced with the following:

For Topic Areas 1, 2 and 3 applications must be received by **June 4, 2009, 11:59 PM Eastern Time**. **For Topic Areas 4, 5 and 6** applications must be received by **June 18, 2009, 11:59 PM Eastern Time**.

You are encouraged to transmit your application well before the deadline.

APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD. APPLICANTS WHO DO NOT SUBMIT A LETTER OF INTENT FOR TOPIC AREAS 1, 2, AND/OR 3 BY THE DUE DATE SPECIFIED ON THE COVER PAGE OF THIS SOLICITATION WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD. LETTERS OF INTENT ARE NOT REQUIRED FOR TOPIC AREAS 4, 5, AND 6.

- 7) All other terms and conditions of the Announcement remain the same.



Department of Energy

Golden Field Office

1617 Cole Boulevard

Golden, Colorado 80401-3393

DE-FOA-0000069

Amendment 000001

DATE: April 15, 2009
FROM: Sara Wilson, Contracting Officer
TO: All Prospective Applicants

SUBJECT: Amendment 000001 to Announcement DE-FOA-0000069,
"Advanced Water Power"

The Announcement is modified as follows:

1) PART III – APPLICATION AND SUBMISSION INFORMATION (ALL TOPIC AREAS) revises the application instructions to require the use of the Adobe Application Package.

Therefore, this Announcement is modified to delete and replace PART III.A. ADDRESS TO REQUEST APPLICATION PACKAGE and PART III. C. CONTENT AND FORM OF APPLICATION with the following:

A. ADDRESS TO REQUEST APPLICATION FORMS

The Adobe Application Package is provided as a separate attachment to this Funding Opportunity Announcement (on FedConnect).

C. CONTENT AND FORM OF APPLICATION

The Adobe Application Package is provided as a separate attachment to this Funding Opportunity Announcement (on FedConnect).

You must complete the mandatory forms and any applicable optional forms, in accordance with the instructions on the forms and the additional instructions below, as required by this FOA. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.**

1. SF 424 - Application for Federal Assistance

Complete this form first to populate data in other forms. Complete all required fields in accordance with the pop-up instructions on the form. The list of certifications and assurances referenced in Field 21 can be found at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances.

2. Project/Performance Site Location(s)

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided. **Note** that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional **district code, for example VA-001**.

3. Other Attachments Form

Submit the following files with your application and attach them to the Other Attachments Form. Click on “Add Mandatory Other Attachment” to attach the Project Narrative. Click on “Add Optional Other Attachment,” to attach the other files.

a. Project Summary/Abstract File

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). **The project summary/abstract must specify the Topic Area to which the applicant is applying.** Applicants are cautioned that this document should not include any proprietary information, trade secrets, or other confidential business, financial or sensitive information, since this summary may be subject to public disclosure under the Freedom of Information Act (FOIA). The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. Save this information in a file named “Summary.pdf,” and click on “Add Optional Other Attachment” to attach.

b. Project Narrative File - Mandatory Other Attachment

The project narrative must not exceed 20 pages, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right).

EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED

IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Part VIII.D for instructions on how to mark proprietary application

information. Save the information in a single file named “Project.pdf,” and click on “Add Mandatory Other Attachment” to attach.

The project narrative must include:

- Project Objectives.
This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.
- Merit Review Criteria Discussion.
The section should be formatted to address each of the merit review criteria and sub-criteria listed in Part V. A. below. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. **DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERIA AND SUB-CRITERIA. For Topic Area 1, demonstrate credibility by supplying experimental data and prior results to illustrate the viability of the concept. Discussion should include end-user value, potential buyers/licensees and preliminary economic analysis.**
- Project Timetable:
This section should outline as a function of time, year by year, all the important activities or phases of the project, including any activities planned beyond the project period. Successful applicants must use this project timetable to report progress.

The above listed components of your Project Narrative combined, must be within the Narrative page limit specified above. Documents listed below may be included as clearly marked appendices to your Narrative and will not count towards the Project Narrative page limit. Please note that some of the required documents listed below may have their own page limits to which you must adhere.

c. **Resume File**

Provide a resume for each key person proposed, including subawardees and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. Save all resumes in a single file named “resume.pdf” and click on “Add Optional Other Attachment” to attach. Each resume must not exceed 2 pages when printed on 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and should include the following information, if applicable:

Education and Training. Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.

Professional Experience: Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications. Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities. List no more than 5 professional and scholarly activities related to the effort proposed.

Of the key personnel identified in this file, indicate the Principal Investigator(s) (PI). If multiple PIs are proposed, the applicant must provide the information indicated in the “Eligibility Information” Section, Part D. of this FOA as part of this file.

The resume file does not have a page limitation.

d. Budget File

SF 424 A Excel, Budget Information – Non-Construction Programs File

You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, “Budget Information – Non Construction Programs” form on the Applicant and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm. You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV, G). Save the information in a single file named “SF424A.xls,” and click on “Add Optional Other Attachment” to attach.

e. Budget Justification File

A Budget Justification for SF 424A must be provided for the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed subaward/consultant work and cost of each subaward/consultant; describe purpose of proposed travel, number of travelers and number of travel days; list general categories of supplies and amount for each category; and provide any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates as part of the budget justification or under the comments under the Indirect tab of the Budget Justification form.

The Excel format provided as PMC 123.1, Budget Justification for SF 424A, at <https://www.eere-pmc.energy.gov/forms.aspx>, is recommended but not required for use in providing this budget justification. Save the information in a single file named “BudgetJustification.xls” (or other file name as applicable), and click on “Add Optional Other

Attachment” to attach.

f. Letters of Commitment

You must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the application) that proposes to provide all or part of the required cost sharing. **All Letters of Commitment must be attached to the Project Narrative File.** The letter must state that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. Letters of Commitment from parties participating in the project, exclusive of vendors, who will not be contributing cost share, but will be integral to the success of the project must be included as part of this Appendix to the Narrative. Letters of Commitment will not count towards the Project Narrative page limit.

g. Subaward Budget File(s)

You must provide a separate budget (i.e., budget for each budget year and a cumulative budget) for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (which ever is less). Use the SF 424 A Excel for Non Construction Programs or the SF 424 C Excel for Construction Programs. These forms are found on the Applicant and Recipient Page at <https://www.eere-pmc.energy.gov/forms.aspx>. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee’s name (plus424.xls) as the file name (e.g., ucla424.xls or energyres424.xls). Click on “Add Optional Other Attachment” to attach each file.

A budget justification for the subaward budget is also required. If the SF 424A budget format is used for the application, the format provided as PMC 123.1, Budget Justification for SF 424A, on the Applicant and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm is recommended but not required for use in providing this budget justification.

h. Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable

If a FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at the following link: <http://www.management.energy.gov/documents/o4121.pdf>. Use up to 10 letters of the FFRDC name (plus .pdf) as the file name (e.g., lanl.pdf or anl.pdf), and click on “Add Optional Other Attachment” to attach.

i. Authorization for non-DOE or DOE FFRDCs

Save the Authorization for non-DOE or DOE FFRDCs, as specified in Part III.C. Other Eligibility Requirements, in a single file named “FFRDC_Auth.pdf” and click on “Add Optional Other Attachment”

j. SF-LLL Disclosure of Lobbying Activities

If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying." The form is available in the optional document box on the grant application package page of grants.gov. Save the document in a single file named "SF-LLL.pdf" and click on "Add Attachments" in Field 11 to attach.

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	File Name
SF 424 - Application for Federal Assistance	Part of Adobe Application Package	N/A
Project/Performance Site Location(s)	Part of Adobe Application Package	N/A
Other Attachments Form: Attach the following files to this form:		See Instructions
Project Summary/Abstract File	PDF	Summary.pdf
Project Narrative File	PDF	Project.pdf
Resume File	PDF	Resume.pdf
SF 424A Excel – Budget Information for Non-Construction Programs File	Excel	SF424A.xls
Budget Justification File	As applicable	See Instructions
Subaward Budget File(s), if applicable	Excel	See Instructions
Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable.	PDF	See instructions
Authorization from cognizant Contracting Officer for FFRDC, if applicable.	PDF	FFRDC_Auth.pdf
SF-LLL Disclosure of Lobbying Activities	PDF	SF-LLL.pdf

- 2) All other content of the Announcement remains unchanged.

FEDCONNECT QUICK START GUIDE, REGISTRATION/SUBMISSION REQUIREMENTS, AND WHERE TO SUBMIT QUESTIONS

1. Application Submission

APPLICATIONS MUST BE SUBMITTED THROUGH FEDCONNECT TO BE CONSIDERED FOR AWARD. It is the responsibility of the applicant, prior to the Application due date and time, to verify successful transmission.

2. FedConnect Quick Start Guide:

Use this guide to assist you with FedConnect:

https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf

3. Registration Process Requirements To submit an application in response to this FOA, Applicants must be registered with FedConnect. Before you can register with FedConnect, you will need the following:

1. Your company's DUNS (including plus 4 extension if applicable). If you don't know your company's DUNS or if your company does not have a DUNS you can search for it or request one at <http://fedgov.dnb.com/webform/displayHomePage.do>.
2. A federal Central Contractor Registration (CCR) account. If your company is not currently registered with CCR, please register at www.ccr.gov before continuing with your FedConnect registration.
3. Possibly, your company's CCR MPIN. If you are the first person from your company to register, FedConnect will need to create a company account. Only a person who knows your company's CCR MPIN can do this. To find out who this is in your company, go to <http://www.ccr.gov/> and click **Search CCR**. Once you've found your company, locate the Electronic Business Point of Contact.

After the initial FedConnect account is created, employees can register themselves without the MPIN. If you are not sure whether your company has an account with FedConnect, don't worry. Complete the registration form and FedConnect will let you know.

Applicants who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. For those Applicants already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

4. Questions

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to submit questions and to receive responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been distributed.

Questions pertaining to the submission of applications through FedConnect should be directed by e-mail to support@FedConnect.net or by phone to FedConnect Support at 1-800-899-6665.

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PART I – FUNDING OPPORTUNITY DESCRIPTION

In 2009, the U.S. Department of Energy (DOE) was appropriated \$40 million to investigate advanced water power energy generation technologies. The Energy Policy Act of 2005 provided authorization to DOE to conduct research on all water power technologies and the Energy Independence and Security Act (EISA) of 2007 calls for DOE to establish a robust program of research, development, demonstration and commercial application activities to expand marine and hydrokinetic renewable energy production. This research is executed through DOE's Office of Energy Efficiency and Renewable Energy (EERE), Wind and Hydropower Technologies Program (WHTP)

The Wind and Hydropower Technologies Program contributes directly to the Department of Energy's missions of improving national, energy, and economic security and of increasing the diversity of our Nation's energy resources. The WHTP works to maximize renewable energy utilization in the United States by leading the Nation's research and development efforts that improve wind and water energy generation technology and that address barriers to the use of renewable energy. DOE does this in coordination with a broad range of stakeholders, including other federal and state agencies, industry groups, academia, and non-governmental organizations. Success in DOE's mission will result in greater energy security and enhanced domestic economic benefit through more diverse, clean, reliable, affordable, and secure domestic electricity supplies.

In order to specifically address these required elements, the Wind and Hydropower Technologies Program will issue two parallel opportunities in FY 2009 for research and development on water power technologies: 1) a Funding Opportunity Announcement (FOA) directed at industry partners and industry-led teams, and 2) a Program Announcement (PA) directed at Department of Energy Laboratories to address technical challenges in water power development, as well as market acceptance barriers. This document describes the Funding Opportunity Announcement.

For the purposes of this announcement, the term “**conventional hydropower**” refers to energy from any source that uses a dam, diversionary structure, or impoundment for electric power purposes.

The term “**marine and hydrokinetic**” refers to energy from:

- (1) Waves, tides, and currents in oceans, estuaries, and tidal areas;
- (2) Free-flowing water in rivers, lakes, and streams;
- (3) Free-flowing water in man-made channels; and
- (4) Differentials in ocean temperature (ocean thermal energy conversion).

The term “**advanced water power**” refers to both marine and hydrokinetic power and conventional hydropower, and to newer technologies with a combination of energy and environmental performance advantages relative to existing technologies.

“**National Marine Renewable Energy Center(s)**” refers to either of the two university-led marine renewable energy centers selected by DOE in the 2008 FOA for Advanced Water Power Projects. The Northwest National Marine Renewable Energy Center is led jointly by Oregon State University and the University of Washington, and focuses on wave and tidal energy. The National Marine Renewable Energy Center in Hawaii is led by the University of Hawaii and focuses on wave and ocean thermal energy.

Note: This Funding Opportunity Announcement includes two phases – letter of intent phase and a final application phase. **Only those Applicants who submit to the letter of intent phase are eligible to submit final applications under this announcement.**

There will be three separate competitions for funds (Topic Areas):

7. Marine and Hydrokinetic Energy Conversion Device or Component Design and Development
8. Marine and Hydrokinetic Site-specific Environmental Studies/Information
9. Advanced Water Power Market Acceleration Projects/Analysis and Assessments

Starting in 2008 DOE began studying water power technologies and their effects. DOE maintains the Marine and Hydrokinetic Technology Database, which provides up-to-date information on the full range of marine and hydrokinetic technologies and projects, both in the U.S. and around the world; it can be accessed at <http://www.eere.energy.gov/windandhydro/hydrokinetic/default.aspx>.

DOE is currently drafting a Report to Congress on the environmental effects of marine and hydrokinetic technologies, which is due to Congress in June, 2009.

The statutory authority for this program is the Energy Policy Act of 2005, Section 931(a)(2)(D) and The Energy Independence and Security Act of 2007, Section 633.

Topic Area Summary

Topic Area	Period of Performance	Expected Number of Awards	Total Estimated Federal Funding*	Estimated FY09 Federal Funding*	Estimated 1 st Year Award per Application (DOE Share)	Estimated Range per Award (Total Federal Funding)*	Required Cost Share	Estimated Recipient Cost Share per Year
7. Marine and Hydrokinetic Energy Conversion Device or Component Design and Development	2 years	Up to 7	\$10 million	\$5 million	Up to \$0.75 million	Up to \$1.5 million	50%	Up to \$0.75 million
8. Marine and Hydrokinetic Site-specific Environmental Studies/Information	2 years	Up to 6	\$3 million	\$3 million	Up to \$0.6 million	Up to \$0.6 million	0%	No Cost Share
9. Advanced Water Power Market Acceleration Projects /Analysis and Assessments	2 years	Up to 6	\$4 million	\$4 million	3A: \$0.5 million 3B: \$0.5 million 3C: \$0.5 million 3D: \$0.5 million 3E: \$0.5 million 3F: \$1 million	3A: \$0.5 million 3B: \$0.5 million 3C: \$0.5 million 3D: \$0.5 million 3E: \$0.5 million 3F: \$1 million	0%	No Cost Share

***Federal funding is subject to annual appropriations – all figures above should be treated as estimates.**

PART II – TOPIC AREA DETAILS

Note: Part II of this announcement contains three separate sections describing each topic area in detail, including full descriptions of each topic area as well as award, eligibility, and merit review information.

Topic Area 1: Marine and Hydrokinetic Energy Conversion Device or Component Design and Development

AWARD INFORMATION

I. BACKGROUND

The Department of Energy is soliciting applications from industry-led partnerships that propose to design, model, develop, refine, and/or test a marine and/or hydrokinetic energy conversion device, at full or subscale, or a component of such a device. Modeling and testing can be computational and/or physical, and physical testing can be on land, in closed-water environments, or in open water. Applications that focus on a subsystem or component must include a technical and integrated operational description of the proposed subsystem and a description of how the proposed subsystem integrates into a full energy conversion system. Subsystems and components that do not address a specific device also may be proposed, provided that it is clearly shown that the proposed component or subsystem generically can benefit multiple devices.

Examples of marine and hydrokinetic energy components and subsystems that might be considered are given below, in no particular order. Other subsystems or components not explicitly mentioned may also be considered. Applications may focus on multiple components or subsystems, but a broad scope of work is only an advantage insofar as applicants can demonstrate their ability to successfully undertake the tasks they propose.

1. Moorings and seabed attachments, including but not limited to: the development of standard mooring arrangements for generic device arrays; the validation of design tools for mooring arrays; investigation of fatigue on mooring lines and components; and device removal procedures.
2. Electrical infrastructure components, including but not limited to: the design and installation of low-cost flexible submerged electrical cables and connectors; and the development and deployment of direct-drive generators, power electronic converters, and intelligent condition monitoring systems.
3. Power take-off and control systems, including but not limited to: systems and methods for optimum performance of both devices and arrays; and systems that improve device survivability and maintainability.
4. Mechanical components to increase energy conversion, environmental performance, survivability and/or reliability, including but not limited to: turbine blades, rotors or rotor subcomponents; monitoring or mitigation systems to enhance environmental acceptance; low friction bearings with high load capability, long life and high tolerance of poor geometry; mechanical shaft seals with long life in sea water; and alternative materials development.
5. Other examples of subsystems or components that will be considered include, but are not limited to: innovative power distribution couplings, connections, and interfaces; and advanced installation or service equipment.

The data resulting from the testing and evaluation will be protected from public disclosure for up to five years, with some exceptions for data of a general nature that demonstrates progress toward

DOE's programmatic goals. DOE will have the right to use the data for Government purposes. The exact terms and conditions of the data use and public release will be set forth in the agreement according to 10 C.F.R. 600.325, Appendix A, "Rights in Data – Programs Covered by Special Data Statutes."

Applicants are required to submit a letter of intent by the due date set forth on the cover page of this FOA. This letter should include the name of the applicant, a brief description of the project (1 paragraph maximum), the Topic Area, and a point of contact for the application. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters of intent do not commit an applicant to submit an application. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov.

Applicants who have not submitted a letter of intent will not be considered for an award.

J. TYPE OF AWARD INSTRUMENT

- DOE anticipates awarding grants under this funding opportunity announcement.

K. ESTIMATED FUNDING

- Approximately \$5 million is expected to be available for new awards in FY 2009 and an additional \$5 million is expected to be available for awards made under this announcement in FY 2010 (subject to available appropriations).

L. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$1.5 million
- Floor (i.e., the minimum amount for an individual award made under this announcement): none

M. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 7 awards under this announcement, depending on the size of the awards.

N. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be in the \$1 million to \$1.5 million range for the total project period. The funds will be appropriated on an annual basis (up to \$0.75 million per year).

O. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 2 years.

P. TYPE OF APPLICATION

- Only new applications will be accepted under this announcement (i.e., applications for renewals of existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION

B. ELIGIBLE APPLICANTS

- Eligibility for Topic Area 1 is restricted to industry-led partnerships with at least one university, national laboratory, or other partner. The industry lead can be a technology developer, private utility, State or a public municipal or cooperative utility. Proponents are encouraged to include one or more DOE –designated National Marine Renewable Energy Center.

B. COST SHARING

- The cost share must be at least 50% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law.

C. OTHER ELIGIBILITY REQUIREMENTS

- **Federally Funded Research and Development Center (FFRDC) Sub-awardees**
FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project, and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award. Save the authorization in a single file named "FFRDC_Auth.pdf," and click on "Add Optional Other Attachment" to attach.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory."

DOE prefers that the authorization is submitted with the application; however the authorization will be accepted up to 30 days after the FOA closing date. If the authorization is not submitted with the application, please submit written notification with the application, stating that the authorization from the cognizant FFRDC contracting officer is in progress and will be submitted no later than 30 days after the FOA closing date.

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PIs (See Part III). The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PIs will be designated, the application must identify in the application the Contact PI/Project Coordinator and provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction
- Publications
- Intellectual property issues
- Communication plans
- Procedures for resolving conflicts
- PIs' roles and administrative, technical and scientific responsibilities for the project

APPLICATION REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Applications within Topic Area 1: Marine and Hydrokinetic Energy Conversion Device or Component Design and Development

Criterion 1: Technical Merit and Innovation

Weight: [30%]

- Demonstrated level of reduction in the manufacturing and operation costs and/or increase in energy conversion of the proposed technology being researched and the associated reduction in levelized cost of electricity (LCOE) and the likelihood of achieving those reductions.
- Demonstrated understanding of the potential environmental impacts of the proposed technology being researched and an effective and feasible plan to address and mitigate such impacts.
- Credibility as supported by sound engineering principles and assumptions.
- Relevance of the project to help further development of the marine and hydrokinetic industry.

Criterion 2: Technical Approach and Project Research Plan

Weight: [30%]

- Degree to which proposed plan is clearly stated, organized, achievable and technically feasible, including the adequacy and completeness of proposed tasks and the resources identified to successfully address all elements of the technical plan.
- Adequacy of the identification and assessment of critical success factors, risks and barriers, as well as plans for mitigation (to include both technical and environmental risk mitigation). Degree to which plans include timely compliance with all applicable regulatory requirements, including licensing or other development permits.
- Viability, completeness, and timeliness of applicant's decision points and/or deliverables in ensuring objective evaluation of progress against the proposed plan.

Criterion 3: Qualifications and Resources

Weight: [25%]

- Capabilities, experience, qualifications, and credentials of team members, including the credibility of applicant's team experience and record of success in technical innovation and performance.
- Availability of required equipment, laboratory and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.
- Demonstrated level of the involvement of private industry to ensure rapid introduction of technologies to the marketplace.
- Demonstrated support of each team member's participation and/or cost share via letter of commitment.

Criterion 4: Development or Commercialization Plan

Weight: [15%]

- Comprehensiveness of plan to disseminate results of research to others in the water power industry (may include conferences, papers, workshops, and web-based information sharing) in a timely manner (i.e. publications, technical presentations, and patent filings).
- Likelihood that project will result in increased marine and/or hydrokinetic technology

deployment and commercial development – potential market impact by 2015.

3. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

4. Geographic diversity of projects
5. Technological diversity of projects
6. Cost Share above the minimum required
7. Significance of environmental considerations

B. REVIEW AND SELECTION PROCESS

4. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the “Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals.” This guide is at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that the documents (Project Abstract and Project Narrative file) that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

5. Selection

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

6. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying applicants selected for award by 08/30/2009 and making awards by 09/30/2009.

OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by anyone other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data will be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to ensure the commercialization of technology developed under a DOE agreement.

Special Protected Data Statutes. This program is covered by a special protected data statute. The provisions of the statute provide for the protection from public disclosure, for a period of up to five years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. Generally, the provision entitled, Rights in Data – Programs Covered Under Special Protected Data Statutes, (10 CFR 600 Appendix A to Subpart D), would apply to an award made under this announcement. This provision will identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and will also identify data that will be recognized by the parties as protected data.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

Topic Area 2: Marine and Hydrokinetic Site-specific Environmental Studies/Information

AWARD INFORMATION

I. BACKGROUND

The Department of Energy is soliciting applications from industry or industry-led partnerships that propose to perform environmental studies related to the installation, testing, and/or operation of a marine and/or hydrokinetic energy conversion device in an open water setting. Studies should relate to a specific project that has or will involve the deployment of one or more full or sub-scale devices. The proposed tasks can be undertaken before, during and/or after installation, and can relate to a single device or an array of devices.

In order to be considered, the applicant must describe the value of the information that will be collected, both to the specific deployment project in question and to the advancement of the industry as a whole. Preference will be given to applications that can demonstrate 1) that the proposed studies are necessary for the installation and/or operation of the planned marine and/or hydrokinetic energy conversion device in the specified location, either for legal or public acceptance reasons, and 2) that the proposed studies will provide information that will facilitate the deployment of future marine and/or hydrokinetic energy conversion devices.

For proposed pre-installation studies, the specific device to be installed need not already be determined, but the applicant must demonstrate sufficiently that plans currently exist to deploy a project in the location in question.

DOE will retain unlimited rights in all environmental data and any resulting analysis thereof that are generated under Topic 2. DOE may use the data for any purposes and may disseminate the data to the public without delay. Environmental data does not include any proprietary data regarding the design, deployment, or operation of the device, or its energy conversion performance. Applicants must agree for their project to serve as a case study for Annex IV of the International Energy Agency's Implementing Agreement on Ocean Energy Systems (IEA-OES). Annex IV seeks to better understand the environmental impacts of marine and hydrokinetic technologies, and case studies will be used to help identify and evaluate impacts. At no point will participation as a case study involve additional commitment of resources or data beyond the scope of this solicitation.

Examples of study topics that might be considered are given below, in no particular order. Other topics not explicitly mentioned may also be considered. Applications may include multiple topics, but a broad scope of work is only an advantage insofar as applicants can demonstrate their ability to successfully undertake each task they propose.

1. The potential near-field and far-field impacts of changes in currents and wave patterns.
2. The alteration of substrates and sediment transport and deposition.
3. Impacts of habitat alterations on aquatic organisms and avian species during installation and/or operation.
4. Acoustic impact on the environment and its effects on aquatic organisms and avian species.
5. Effects of electromagnetic fields on aquatic organisms and avian species.
6. Toxicity of paints, anti-fouling coatings, and other chemicals within the aquatic environment.

7. Interference with aquatic organisms and avian species' movements and migrations, local and/or migratory.
8. Effects of collision or strike on aquatic organisms and avian species, including but not limited to blade strike, collision with mooring lines or surface structures, and water pressure changes or cavitation.
9. For ocean thermal energy conversion projects, additional study areas include but are not limited to: impingement and entrainment, especially at the water intakes; and the effect of changes in temperature, pressure, salinity, nutrients, and dissolved gases that may cause mortality.
10. Direct and/or indirect impacts on the use of the site for recreational activities.
11. Direct and/or indirect impacts on the use of the site for other commercial activities.
12. Cumulative impacts of multiple stresses (arrays of multiple devices and/or interactions among different stresses).

Applicants are required to submit a letter of intent by the due date set forth on the cover page of this FOA. This letter should include the name of the applicant, a brief description of the project (1 paragraph maximum), the Topic Area, and a point of contact for the application. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters of intent do not commit an applicant to submit an application. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov. **Applicants who have not submitted a letter of intent will not be considered for an award.**

J. TYPE OF AWARD INSTRUMENT

- DOE anticipates awarding grants under this funding opportunity announcement.

K. ESTIMATED FUNDING

- Approximately \$3 million is expected to be available for new awards in FY2009.

L. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$0.6 million
- Floor (i.e., the minimum amount for an individual award made under this announcement): none

M. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 6 awards under this announcement, depending on the size of the awards.

N. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be up to \$0.6 million range for the total project period.

O. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 2 years.

P. TYPE OF APPLICATION

- Only new applications will be accepted under this announcement (i.e., applications for renewals of

existing DOE funded projects will not be considered).

ELIGIBILITY INFORMATION

B. ELIGIBLE APPLICANTS.

- Eligibility for Topic Area 2 is restricted to industry members or industry-led partnerships including, but not limited to industry, university, state agency or federal laboratory partners. The industry lead can be a technology developer, private utility, State or a public municipal or cooperative utility.

B. COST SHARING

- Cost sharing is not required.

C. OTHER ELIGIBILITY REQUIREMENTS

• Federally Funded Research and Development Center (FFRDC) Sub-awardees

FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award. Save the authorization in a single file named "FFRDC_Auth.pdf," and click on "Add Optional Other Attachment" to attach.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project, and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

"Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory."

DOE prefers that the authorization is submitted with the application; however the authorization will be accepted up to 30 days after the FOA closing date. If the authorization is not submitted with the application, please submit written notification (with the application), stating that the authorization from the cognizant FFRDC contracting officer is in progress and will be submitted no later than 30 days after the FOA closing date.

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

D. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PIs (See Part III). The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PIs will be designated, the application must identify in the application the Contact PI/Project Coordinator and provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction
- Publications
- Intellectual property issues
- Communication plans
- Procedures for resolving conflicts
- PIs' roles and administrative, technical and scientific responsibilities for the project

APPLICATION REVIEW INFORMATION

A. REVIEW CRITERIA

1. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

2. Merit Review Criteria

The following criteria are proposed to be used to evaluate Applications within
Topic Area 2: Marine and Hydrokinetic Site-specific Environmental Studies/Information

Criterion 1: Technical Merit and Innovation**Weight: [30%]**

- Relevance of the data to the permitting, installation and/or operation of a marine and/or hydrokinetic energy conversion device in the specified location.
- Ability of the data collected to help facilitate the deployment of future marine and/or hydrokinetic energy conversion devices.
- Degree to which application addresses one or more of the study topics proposed in this topic area, or degree to which application demonstrates a study topic related but not specifically proposed in the topic area meets the two criteria outlined above.

Criterion 2: Technical Approach and Project Research Plan**Weight: [30%]**

- Degree to which proposed plan is clearly stated, organized, achievable and technically feasible, including the adequacy of proposed tasks, decision points and the resources identified to successfully address all elements of the technical plan with evaluation of progress against the proposed plan.
- Adequacy of the identification and assessment of critical success factors, risks and barriers, as well as plans for mitigating both technical and environmental issues identified.
- Adequacy of plan to work closely with relevant Federal, State and local agencies, as well as the local community at the deployment site, as appropriate.

Criterion 3: Qualifications and Resources**Weight: [25%]**

- Capabilities, experience, qualifications, and credentials of team members with participation and/or cost share, including the credibility of applicant's team experience and record of success in technical innovation and performance.
- Specific experience in the identification and analysis of the potential environmental, socio-economic, and recreational impacts of marine and/or hydrokinetic devices and arrays.
- Availability of required equipment, laboratory and demonstration facilities, analytic support, and other necessary resources for performing the proposed project.

Criterion 4: Distribution of Results**Weight: [15%]**

- Comprehensiveness of plan to disseminate results of research to others in the water power industry (may include conferences, papers, workshops, and web-based information sharing) in a timely manner (i.e. publications, technical presentations, and patent filings).

3. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

6. Geographic diversity of projects
7. Technological diversity of projects
8. Cost Share above the minimum required
9. Significance of environmental considerations

B. REVIEW AND SELECTION PROCESS

4. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that the documents (Project Abstract and Project Narrative file) that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

5. Selection

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

6. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying applicants selected for award by 08/30/2009 and making awards by 09/30/2009.

OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE's own needs or to insure the commercialization of technology developed under a DOE agreement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

Topic Area 3: Advanced Water Power Market Acceleration Projects/Analysis and Assessments

AWARD INFORMATION

I. BACKGROUND

The Department of Energy is soliciting applications that propose to facilitate the market penetration of water power technologies. Applicants can submit multiple applications, though each application should address one, and only one, of the following sub-topic areas:

- 3A. *An assessment of off-shore ocean current energy resources along the U.S. coastline, excluding tidal currents, to determine maximum practicably extractable energy.* The assessment should assume optimal achievable energy conversion rates based on likely future technology performance and should account for device spacing requirements within energy conversion arrays. The final product will include a geospatial database, validated and verified by a third party with experience in renewable energy resource validation, that is capable of displaying power densities in Watts per square meter of water surface area for specific geographic information system (GIS) coordinates, in a manner that is useful to developers and policymakers, that characterizes the seasonal variability and magnitude of current energy, and can be updated on a regular basis. The third-party partner that will conduct independent validation shall be identified in the application, along with their method for validation. The methodology and results should allow the U.S. ocean current resource to be accurately compared to other renewable energy resources and conform, to the maximum extent possible, with widely-accepted resource assessment metrics and standards and incorporated as metadata in the final product.
- 3B. *An assessment of in-stream hydrokinetic energy resources, defined as energy that can be extracted from free flowing water in rivers, lakes, streams or man-made channels without the use of a dam or diversionary structure, in the U.S. to determine maximum practicably extractable energy.* A successful application will demonstrate a comprehensive understanding of existing U.S. in-stream hydrokinetic resource assessments, including previous DOE-funded efforts, and how the proposed project will build and improve upon the existing assessments. The assessment should assume optimal achievable energy conversion rates based on likely future technology performance and should account for device spacing requirements within in-stream hydrokinetic energy conversion arrays. The final product will include a geospatial database, validated and verified by a third party with experience in renewable energy resource validation in a manner that is useful to developers and policymakers and that can be updated on a regular basis. The third-party partner that will conduct independent validation shall be identified in the application, along with their method for validation. The methodology and results should allow the U.S. in-stream hydrokinetic resource to be accurately compared to other renewable energy resources and conform, to the maximum extent possible, with widely-accepted resource assessment metrics and standards and incorporated as metadata in the final product.
- 3C. *An assessment of projected life-cycle costs for ocean thermal energy conversion in the United States over time.* Cost estimates will be presented as ranges, with at least three

separate cost scenarios (e.g. high, medium, low) and will include projections for both installed capital cost and the cost of operations and maintenance (O&M) in \$/kW, as well as future cost of energy in \$/kWh. Cost estimates should make use of best available data, including existing ocean thermal energy component development costs and analogous technologies in related industries, and should be extrapolated over time and over multiple technology designs and industry deployment scenarios. The ocean thermal energy cost assessment will differentiate between costs associated with near-shore, grid-connected ocean thermal energy systems and those floating offshore. Cost estimates will include project development costs, including site selection and permitting, installation and mooring, and connection to the grid. A successful application will demonstrate an ability to improve significantly upon current cost assessments, and will propose sources for critical data and assumptions such as: component design and development costs; infrastructure cost; learning rates; reference cost build-ups; cost data indexing; load models; performance models; O&M strategies/costs; and project development costs. Projects are encouraged that propose to generate energy supply curves that can predict energy generation at a given cost level.

- 3D. *An assessment of global and domestic U.S. ocean thermal energy resources to determine maximum practicably extractable energy.* The assessment should assume optimal achievable energy conversion rates based on likely future technology performance and should account for device spacing requirements and the physical limitations of the ocean thermal resource. The assessment should distinguish between resources available with near-shore, grid-connected ocean thermal energy systems and those require floating offshore systems. The final product will include a geospatial database, validated and verified by a third party with experience in renewable energy resource validation, that is capable of displaying available power for specific geographic information system (GIS) coordinates, in a manner that is useful to developers and policymakers, that characterizes the magnitude and any seasonal variability of ocean thermal energy, and can be updated on a regular basis. The third-party partner that will conduct independent validation shall be identified in the application, along with their method for validation. The methodology and results should allow the U.S. ocean current resource to be accurately compared to other renewable energy resources and conform, to the maximum extent possible, with widely-accepted resource assessment metrics and standards and incorporated as metadata in the final product.
- 3E. *An assessment of projected life-cycle costs for wave, tidal, ocean current, and in-stream hydrokinetic power in the United States over time.* Cost estimates will be presented as ranges for each resource type, with at least three separate cost scenarios (e.g. high, medium, low) and will include projections for both installed capital cost and the cost of operations and maintenance (O&M) in \$/kW, as well as future cost of energy in \$/kWh. Cost estimates should make use of best available data, including existing marine and hydrokinetic technologies and analogous technologies in related industries, and should be extrapolated over time under at least three possible industry deployment scenarios, specified in total MW deployed. The assessment will address the full geographical range of marine and hydrokinetic energy deployment likely in the U.S. and incorporate multiple energy conversion technology types for each resource type. Cost estimates will include

project development costs, including site selection and permitting, installation and mooring, and connection to the grid. A successful application will demonstrate an ability to improve significantly upon current cost assessments, and will propose sources for critical data and assumptions such as: component design and development costs; infrastructure cost; learning rates; reference cost build-ups; cost data indexing; load models; performance models; O&M strategies/costs; and project development costs. Projects are encouraged that propose to generate energy supply curves that can predict energy generation at a given cost level.

- 3F. *An assessment of the energy resources available from installing power stations on non-powered dams and in constructed waterways and the construction of new pumped storage facilities in the U.S. to determine maximum practicably extractable energy.* A successful application will demonstrate a comprehensive understanding of existing U.S. hydropower resource assessments and how the proposed project will build and improve upon the existing assessments. The final product will include a geospatial database, validated and verified by a third party with experience in renewable energy resource validation in a manner that is useful to developers and policymakers and that can be updated on a regular basis. This database should be coordinated and compatible with the geospatial data standards used in other ongoing incremental hydropower resource analyses supported by WHTP, including the National Hydropower Asset Assessment Program. The third-party partner that will conduct independent validation shall be identified in the application, along with their method for validation. The methodology and results should allow the U.S. advanced hydropower resource to be accurately compared to other renewable energy resources and conform, to the maximum extent possible, with widely-accepted resource assessment metrics and standards and incorporated as metadata in the final product.

Federal funding for the Advanced Water Power Market Acceleration Projects for fiscal year 2009 is expected to be approximately \$4 million. DOE expects to make up to 6 awards where individual awards are valued at up to \$0.5 million DOE share for subtopics 3A – 3E and up to \$1 million DOE share for subtopic 3F.

Applicants are required to submit a letter of intent by the due date set forth on the cover page of this FOA. This letter should include the name of the applicant, a brief description of the project (1 paragraph maximum), the Topic Area, and a point of contact for the application. Letters of intent will be used by DOE to organize and expedite the merit review process. Letters of intent do not commit an applicant to submit an application. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov. **Applicants who have not submitted a letter of intent will not be considered for an award.**

J. TYPE OF AWARD INSTRUMENT

- DOE anticipates awarding grants under this funding opportunity announcement.

K. ESTIMATED FUNDING

- Approximately \$4 million is expected to be available for new awards in FY2009.

L. MAXIMUM AND MINIMUM AWARD SIZE

- Ceiling (i.e., the maximum amount for an individual award made under this announcement):
3A: \$0.5 million
3B: \$0.5 million
3C: \$0.5 million
3D: \$0.5 million
3E: \$0.5 million
3F: \$1 million
- Floor (i.e., the minimum amount for an individual award made under this announcement):
none

M. EXPECTED NUMBER OF AWARDS

- DOE anticipates making up to 6 awards under this announcement depending on the size of the awards.

N. ANTICIPATED AWARD SIZE

- DOE anticipates that awards will be up to \$0.5 million for subtopics 3A – 3E and up to \$1 million for subtopic 3F for the total project period.

O. PERIOD OF PERFORMANCE

- DOE anticipates making awards that will run for up to 2 years.

P. TYPE OF APPLICATION

- Only new applications will be accepted under this announcement (i.e., applications for renewals of existing DOE funded projects will not be considered)

ELIGIBILITY INFORMATION

E. ELIGIBLE APPLICANTS

- Topic Area 3 is not restricted.

F. COST SHARING

- Cost sharing is not required.

G. OTHER ELIGIBILITY REQUIREMENTS

- **Federally Funded Research and Development Center (FFRDC) Sub-awardees**
FFRDC contractors are not eligible for an award under this announcement, but they may be proposed as a team member on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project, and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award. Save the authorization in a single file named "FFRDC_Auth.pdf," and click on "Add Optional Other Attachment" to attach.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory.”

DOE prefers that the authorization is submitted with the application; however the authorization will be accepted up to 30 days after the FOA closing date. If the authorization is not submitted with the application, please submit written notification (with the application), that the authorization from the cognizant FFRDC contracting officer is in progress and will be submitted no later than 30 days after the FOA closing date.

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant’s cost share requirement will be based on the total cost of the project, including the applicant’s and the FFRDC contractor’s portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant’s and the FFRDC contractor’s portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

H. MULTIPLE PRINCIPAL INVESTIGATORS

The assignment and use of multiple Principal Investigators (PIs) in projects awarded under this FOA is allowed. The applicant, whether a single organization or team/partnership/consortium, must however indicate in the application if the project will include multiple PIs (See Part III). The decision to use multiple PIs for a project is the sole responsibility of the applicant. If multiple PIs will be designated, the application must identify in the application the Contact PI/Project Coordinator and provide a “Coordination and Management Plan” that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

- Process for making decisions on scientific/technical direction
- Publications
- Intellectual property issues
- Communication plans

- Procedures for resolving conflicts
- PIs' roles and administrative, technical and scientific responsibilities for the project

APPLICATION REVIEW INFORMATION

A. REVIEW CRITERIA

4. Initial Review Criteria

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

5. Merit Review Criteria

The following criteria are proposed to be used to evaluate Applications within
Topic Area 3: Advanced Water Power Market Acceleration Projects/Analysis and Assessments

Criterion 1: Technical Merit and Innovation

Weight: [30%]

- Ability of the project to help further industry-wide deployment and development.
- Degree to which application addresses one or more of the research topics associated with this Topic Area.
- Degree to which the project will improve upon the current state of knowledge related to the subtopic in question.

Criterion 2: Technical Approach and Project Research Plan

Weight: [30%]

- Viability of technical approach and the project research plan to achieve FOA objectives.
- Degree to which proposed plan is clearly stated, organized, achievable and technically feasible, including the adequacy of proposed tasks, decision points and the resources identified to successfully address all elements of the technical plan with evaluation of progress against the proposed plan.
- Adequacy of the identification and assessment of critical success factors, risks and barriers, as well as plans for mitigating both technical and environmental issues identified.

Criterion 3: Qualifications and Resources

Weight: [25%]

- Capabilities, experience, qualifications, and credentials of team members, including the credibility of applicant's team experience and record of success in technical innovation and performance.
- Availability of required equipment, laboratory and demonstration facilities, analytic support,

- and other necessary resources for performing the proposed project.
- Demonstrated support of each team member's participation and/or cost share.

Criterion 4: Distribution of Results

Weight: [15%]

- Comprehensiveness of plan to disseminate results of research to others in the water power industry (may include conferences, papers, workshops, and web-based information sharing) in a timely manner (i.e. publications, technical presentations, and patent filings).

6. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

3. Geographic diversity of projects.
4. Technological diversity of projects.
5. Cost Share above the minimum required.
6. Significance of environmental considerations.

B. REVIEW AND SELECTION PROCESS

1. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is at <http://www.management.energy.gov/documents/meritrev.pdf>.

It is very important that the documents (Project Abstract and Project Narrative file) that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

2. Selection

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

- DOE anticipates notifying applicants selected for award by 08/30/2009 and making awards by 09/30/2009.

OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE’s own needs or to insure the commercialization of technology developed under a DOE agreement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

J. NOTICE OF POTENTIAL DISCLOSURE UNDER FREEDOM OF INFORMATION ACT

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

PART III – APPLICATION AND SUBMISSION INFORMATION (ALL TOPIC AREAS)

A. ADDRESS TO REQUEST APPLICATION PACKAGE

Application forms are provided as separate attachments to this Funding Opportunity Announcement which is posted on the FedConnect website at <https://www.fedconnect.net/FedConnect>. The application forms are also available at <https://www.eere-pmc.energy.gov/forms.aspx>.

B. LETTER OF INTENT AND PRE-APPLICATION

1. Letter of Intent

Only those Applicants who submit a letter of intent are eligible to submit final applications under this announcement. Applicants are requested to submit a letter of intent by **May 6, 2009, 11:59 PM Eastern Time**. This letter should include the name of the applicant, a brief description of the project (1 paragraph maximum), the Topic Area, and a point of contact for the application. Letters of intent will be used by DOE to organize and expedite the merit review process. A letter of intent does not commit an applicant to submit an application. They should not contain any proprietary or sensitive business information. The letter of intent should be sent by E-mail to Water2009@go.doe.gov.

Applicants who have not submitted a letter of intent will not be considered for an award.

2. Pre-application

A pre-application is not required.

C. CONTENT AND FORM OF APPLICATION

The Application forms are provided as separate attachments to this Funding Opportunity Announcement (on FedConnect) and are also found at <https://www.eere-pmc.energy.gov/Forms.aspx#APPForms>.

You must complete the application forms, in accordance with the instructions on the forms and the additional instructions below, as required by this FOA.

SF 424 - Application for Federal Assistance

Complete all required fields in accordance with the instructions on the form. The list of certifications and assurances referenced in Field 21 can be found at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances. Submission of your application to DOE with the name of the Authorized Representative name in the “Signature of Authorized Representative” box constitutes an electronic signature. Save in a file named “SF-424Application.doc,” and attach.

Project/Performance Site Location(s)

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

Note that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional district code, for example VA-001. Save in a file named “PPSL.doc” and attach.

Project Summary/Abstract File

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). **The project summary/abstract must specify the Topic Area to which the project is applying.** Applicants are cautioned that this document should not include any proprietary information, trade secrets, or other confidential business, financial or sensitive information, since this summary may be subject to public disclosure under the Freedom of Information Act (FOIA). The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. Save this information in a file named “Summary.doc,” and attach.

Project Narrative File - Mandatory Other Attachment

The project narrative must not exceed 20 pages, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right).

EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Part VIII.D for instructions on how to mark proprietary application information. Save the information in a single file named “Project.doc,” and attach.

The project narrative must include:

- Project Objectives.

This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.

- Merit Review Criteria Discussion.

The section should be formatted to address each of the merit review criteria and sub-criteria listed in Part V. A. below. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. **DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERIA AND SUB-CRITERIA.**

For Topic Area 1, demonstrate credibility by supplying experimental data and prior results to illustrate the viability of the concept. Discussion should include end-user value, potential buyers/licensees and preliminary economic analysis.

- Project Timetable:

This section should outline as a function of time, year by year, all the important activities or phases of the project, including any activities planned beyond the project

period. Successful applicants must use this project timetable to report progress.

The above listed components of your Project Narrative combined, must be within the Narrative page limit specified above. Documents listed below may be included as clearly marked appendices to your Narrative and will not count towards the Project Narrative page limit. Please note that some of the required documents listed below may have their own page limits to which you must adhere.

Resume File

Provide a resume for each key person proposed, including subawardees and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. Save all resumes in a single file named “resume.doc” and attach. Each resume must not exceed 2 pages when printed on 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and should include the following information, if applicable:

Education and Training. Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.

Professional Experience: Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications. Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents: copyrights and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities. List no more than 5 professional and scholarly activities related to the effort proposed.

Of the key personnel identified in this file, indicate the Principal Investigator(s) (PI). If multiple PIs are proposed, the applicant must provide the information indicated in the Eligibility Information section of this FOA as part of this file.

The resume file does not have a page limitation.

Budget File

SF 424 A Excel, Budget Information – Non-Construction Programs File

You must provide a separate budget for each year of support requested and accumulative budget for the total project period. Use the SF 424 A Excel, “Budget Information – Non Construction Programs” form on the Applicant and Recipient Page at

http://management.energy.gov/business_doe/business_forms.htm. You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the

proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV, G). Save the information in a single file named “SF424A.xls,” and attach.

Budget Justification File

A Budget Justification for SF 424A must be provided for the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed subaward/consultant work and cost of each subaward/consultant; describe purpose of proposed travel, number of travelers and number of travel days; list general categories of supplies and amount for each category; and provide any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates as part of the budget justification or under the comments under the Indirect tab of the Budget Justification form.

The Excel format provided as PMC 123.1, Budget Justification for SF 424A, at <https://www.eere-pmc.energy.gov/forms.aspx>, is highly recommended for use in providing this budget justification. Save the information in a single file named BudgetJustification.xls (or other file name as applicable), and attach.

Letters of Commitment

You must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the application) that proposes to provide all or part of the required cost sharing. **All Letters of Commitment must be attached to the Project Narrative File.** The letter must state that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. Letters of Commitment from parties participating in the project, exclusive of vendors, who will not be contributing cost share, but will be integral to the success of the project must be included as part of this Appendix to the Narrative. Letters of Commitment will not count towards the Project Narrative page limit.

Subaward Budget File(s)

You must provide a separate budget (i.e., budget for each budget year and a cumulative budget) for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less). Use the SF 424 A Excel for Non Construction Programs or the SF 424 C Excel for Construction Programs. These forms are found on the Applicant and Recipient Page at <https://www.eere-pmc.energy.gov/forms.aspx>. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee’s name (plus424.xls) as the file name (e.g., ucla424.xls or energyres424.xls). Attach each file.

A budget justification for the subaward budget is also required. If the SF 424A budget format is used for the application, the format provided as PMC 123.1, Budget Justification for SF 424A, on the Applicant and Recipient Page at http://management.energy.gov/business_doe/business_forms.htm is recommended but not required for use in providing this budget justification.

Budget for Federally Funded Research and Development Center (FFRDC) Sub-awardees File, if applicable

If a FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at the following link: <http://www.management.energy.gov/documents/o4121.pdf>. Use up to 10 letters of the FFRDC name (plus.doc) as the file name (e.g., lanl.doc or anl.doc), and attach.

Authorization for non-DOE or DOE FFRDCs

Save the Authorization for non-DOE or DOE FFRDCs, as specified in the Eligibility Information section of this FOA, in a single file named “FFRDC_Auth.doc” and attach.

k. SF-LLL Disclosure of Lobbying Activities

Complete SF- LLL. If not applicable, negative response is required. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit the Standard Form - LLL, "Disclosure Form to Report Lobbying" attached to this announcement. The form is also available at <https://www.eere-pmc.energy.gov/forms.aspx>. Save in a file named “SF-LLL.doc,” and attach.

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	File Name
SF 424 - Application for Federal Assistance	Word	SF424Application.doc
Project/Performance Site Location(s)	Word	PPSL.doc
Project Summary/Abstract File	Word	Summary.doc
Project Narrative File, including required appendices (Letters of Commitment)	Word	Project.doc
Resume File	Word	Resume.doc
SF 424A Excel - Budget Information for Non-Construction Programs File	Excel	SF424A.xls
Budget Justification File (see instructions for format)	As applicable	See instructions
Subaward Budget File(s), if applicable	Excel	See Instructions
Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable.	Word	See Instructions
Authorization from cognizant Contracting Officer for FFRDC, if applicable.	Word	FFRDC_Auth.doc
SF-LLL Disclosure of Lobbying Activities	Word	SF-LLL.doc

D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Environmental Questionnaire (EF-1)

E. SUBMISSION DATES AND TIMES

Application Due Date

Applications must be received by **June 4, 2009, 11:59 PM Eastern Time**. You are encouraged to transmit your application well before the deadline. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**
APPLICANTS WHO DO NOT SUBMIT A LETTER OF INTENT BY THE DUE DATE SPECIFIED ON THE COVER PAGE OF THIS SOLICITATION WILL NOT BE

REVIEWED OR CONSIDERED FOR AWARD.

F. INTERGOVERNMENTAL REVIEW

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. FUNDING RESTRICTIONS

Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. The cost principles for commercial organization are in FAR Part 31.

Pre-award Costs. Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

H. SUBMISSION AND REGISTRATION REQUIREMENTS

1. Where to Submit

APPLICATIONS MUST BE SUBMITTED THROUGH FEDCONNECT TO BE CONSIDERED FOR AWARD. Submit electronic applications through the FedConnect portal. Information regarding how to submit applications via Fed Connect can be found at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf.

Further, it is the responsibility of the applicant, prior to the Application due date and time, to verify successful transmission.

2. Registration Process Requirements

To submit an application in response to this FOA, Applicants must be registered with FedConnect. Before you can register with FedConnect, you will need the following:

- a. Your company's DUNS (including plus 4 extension if applicable). If you don't know your company's DUNS or if your company does not have a DUNS you can search for it or request one at <http://fedgov.dnb.com/webform/displayHomePage.do>.
- b. A federal Central Contractor Registration (CCR) account. If your company is not currently registered with CCR, please register at www.ccr.gov before continuing with your FedConnect registration.
- c. Possibly, your company's CCR MPIN. If you are the first person from your company to register, FedConnect will need to create a company account. Only a person who knows your

company's CCR MPIN can do this. To find out who this is in your company, go to <http://www.ccr.gov/> and click **Search CCR**. Once you've found your company, locate the Electronic Business Point of Contact.

After the initial FedConnect account is created, employees can register themselves without the MPIN. If you are not sure whether your company has an account with FedConnect, don't worry. Complete the registration form and FedConnect will let you know.

Applicants who are not registered with CCR and FedConnect, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. For those Applicants already registered in CCR, the CCR registration must be updated annually at <http://www.ccr.gov/Renew.aspx>.

PART IV - AWARD ADMINISTRATION INFORMATION (ALL TOPIC AREAS)

A. AWARD NOTICES

1. Notice of Selection

DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Part III.G with respect to the allowability of pre-award costs.)

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

2. Notice of Award

A Notice of Financial Assistance Award issued by the contracting officer is the authorizing award document. It normally includes, either as an attachment or by reference: 1. Special Terms and Conditions; 2. Applicable program regulations, if any; 3. Application as approved by DOE; 4. DOE assistance regulations at 10 CFR part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; 5. National Policy Assurances To Be Incorporated As Award Terms; 6. Budget Summary; 7. Federal Assistance Reporting Checklist, which identifies the reporting requirements; and 8. Statement of Project Objectives.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: <http://ecfr.gpoaccess.gov>), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at http://www.nsf.gov/awards/managing/fed_dem_part.jsp.

2. Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at <http://www.management.energy.gov/documents/specialtermsandcondition308.pdf>.

The National Policy Assurances To Be Incorporated As Award Terms are located at http://management.energy.gov/business_doe/1374.htm.

3. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/financial_assistance_awards.htm.

4. Statement of Substantial Involvement

Either a grant or cooperative agreement may be awarded under this program announcement. If the award is a cooperative agreement, the DOE Specialist and DOE Project Officer will negotiate a Statement of Substantial Involvement prior to award.

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement.

PART V – QUESTIONS (ALL TOPIC AREAS)

QUESTIONS

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions pertaining to the **submission** of applications through FedConnect should be directed by e-mail to support@FedConnect.net or by phone to FedConnect Support at 800-899-6665.

REFERENCE MATERIAL

Appendix A – Definitions

“Amendment” means a revision to a Funding Opportunity Announcement

"Applicant" means the legal entity or individual signing the Application. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Application" means the documentation submitted in response to a Funding Opportunity Announcement. NOTE: Application is referred to as Proposal in IIPS.

“Authorized Organization Representative (AOR)” is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. The privileges are assigned by the organization’s E-Business Point of Contact designated in the CCR.

"Award" means the written documentation executed by a DOE Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

"Budget" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Applicant Cost Share.

"Consortium (plural consortia)" means the group of organizations or individuals that have chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Contracting Officer" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"Cooperative Agreement" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Cost Sharing" means the respective share of Total Project Costs to be contributed by the Applicant and by DOE. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE Cost Shares) rather than to the DOE contribution alone.

“Central Contractor Registry (CCR)” is the primary database which collects, validates, stores and disseminates data in support of agency missions. Funding Opportunity Announcements which require application submission through Grants.gov require that the organization first be registered in the CCR at <http://www.grants.gov/CCRRegister>.

“Credential Provider” is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov. Funding Opportunity Announcements which require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at <https://apply.grants.gov/OrcRegister>.

“Data Universal Numbering System (DUNS) Number” is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the CCR. Call 1-866-705-5711 to receive one free of charge. http://www.grants.gov/applicants/request_duns_number.jsp

“E-Business Point of Contact (POC)” is the individual who is designated as the Electronic Business Point of Contact in the CCR registration. This person is the sole authority of the organization with the capability of designating or revoking an individual’s ability to submit grant applications on behalf of their organization through Grants.gov.

“E-Find” is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. <http://www.grants.gov/search/searchHome.do>

“Financial Assistance” means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

“Federally Funded Research and Development Center (FFRDC)” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

“Funding Opportunity Announcement (FOA)” is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

“Grant” means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

“Grants.gov” is the “storefront” web portal which allows organizations to electronically find and apply for competitive grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. <http://www.grants.gov>

“Key Personnel” means the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

“Marketing Partner Identification Number (MPIN)” is a very important password designated by your organization when registering in CCR. The E-Business Point of Contact will need the MPIN to login to Grants.gov to assign privileges to the individual(s) authorized to submit applications on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

"Participant" for purposes of this Funding Opportunity Announcement only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Funding Opportunity Announcement.

“Principal Investigator” refers to the technical point of contact/Project Manager for a specific project award.

"Project" means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

“Proposal” is the term used in IIPS meaning the documentation submitted in response to a Funding Opportunity Announcement. Also see Application.

“Recipient” means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

"Selection" means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

"Selection Official" means the DOE official designated to select Applications for negotiation toward Award under a subject Funding Opportunity Announcement.

"Substantial Involvement" means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any agreement.

“Technology Investment Agreement (TIA)” is a new type of assistance instrument for DOE, but they have been used by the Department of Defense for many years to support or stimulate research projects involving for-profit firms, especially commercial firms that do business primarily in the commercial marketplace. TIAs are different from grants and cooperative agreements in that the award terms may vary from the Government-wide standard terms (See DOE TIA regulations at 10 CFR Part 603). The primary purposes for including a TIA in the type of available award instruments are to encourage non-traditional Government contractors to participate in an R&D program and to facilitate new relationships and business practices. A TIA can be particularly useful for awards to consortia (See 10 CFR 603.225(b) and 603.515, Qualification of a consortium).

"Total Project Cost" means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.

Appendix B – Personally Identifiable Information

In responding to this Announcement, Applicants must ensure that Protected Personally Identifiable Information (PII) is not included in the following documents: Project Abstract, Project Narrative, Biographical Sketches, Budget or Budget Justification. These documents will be used by the Merit Review Committee in the review process to evaluate each application. PII is defined by the Office of Management and Budget (OMB) and DOE as:

Any information about an individual maintained by an agency, including but not limited to, education, financial transactions, medical history, and criminal or employment history and information that can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, etc., including any other personal information that is linked or linkable to an individual.

This definition of PII can be further defined as: (1) Public PII and (2) Protected PII.

1. **Public PII:** PII found in public sources such as telephone books, public websites, business cards, university listing, etc. Public PII includes first and last name, address, work telephone number, email address, home telephone number, and general education credentials.
2. **Protected PII:** PII that requires enhanced protection. This information includes data that if compromised could cause harm to an individual such as identity theft.

Listed below are examples of Protected PII that Applicants must not include in the files listed above to be evaluated by the Merit Review Committee.

- Social Security Numbers in any form
- Place of Birth associated with an individual
- Date of Birth associated with an individual
- Mother's maiden name associated with an individual
- Biometric record associated with an individual
- Fingerprint
- Iris scan
- DNA
- Medical history information associated with an individual
- Medical conditions, including history of disease
- Metric information, e.g. weight, height, blood pressure
- Criminal history associated with an individual
- Employment history and other employment information associated with an individual
- Ratings
- Disciplinary actions
- Performance elements and standards (or work expectations) are PII when they are so intertwined with performance appraisals that their disclosure would reveal an individual's performance appraisal

- Financial information associated with an individual
- Credit card numbers
- Bank account numbers
- Security clearance history or related information (not including actual clearances held)

Listed below are examples of Public PII that Applicants may include in the files listed above to be evaluated by the Merit Review Committee:

- Phone numbers (work, home, cell)
- Street addresses (work and personal)
- Email addresses (work and personal)
- Digital pictures
- Medical information included in a health or safety report
- Employment information that is not PII even when associated with a name
- Resumes, unless they include a Social Security Number
- Present and past position titles and occupational series
- Present and past grades
- Present and past annual salary rates (including performance awards or bonuses, incentive awards, merit pay amount, Meritorious or Distinguished Executive Ranks, and allowances and differentials)
- Present and past duty stations and organization of assignment (includes room and phone numbers, organization designations, work email address, or other identifying information regarding buildings, room numbers, or places of employment)
- Position descriptions, identification of job elements, and those performance standards (but not actual performance appraisals) that the release of which would not interfere with law enforcement programs or severely inhibit agency effectiveness
- Security clearances held
- Written biographies (e.g. to be used in a program describing a speaker)
- Academic credentials
- Schools attended
- Major or area of study
- Personal information stored by individuals about themselves on their assigned workstation or laptop unless it contains a Social Security Number

Appendix C – Cost Share Information

The requirement for cost sharing included in Funding Opportunity Announcements (FOA) issued competitively by the Department of Energy (DOE) is either statutory, programmatic, or both. Certain federal statutes require a minimum cost share requirement, by either type of activities funded or by Program. This is known as statutory cost share. The Program may also, at its discretion, require a greater level of cost share than the statutory minimum, or require cost share when there is no minimum requirement, as it determines appropriate. This is called programmatic cost share.

Research and development (R&D) activities (other than R&D activities related to basic science) require Recipients (those receiving the financial assistance awards from DOE) to cost share at a minimum of 20% of total project costs. Demonstration and Deployment activities require Recipients to cost share at a minimum of 50% of total project costs.

These statutory requirements are prescribed in Section 988 of the Environmental Policy Act (EPA) of 2005. Any waiver of this requirement must be approved by the Secretary of Energy.

When responding to a DOE FOA, an Applicant will have the opportunity to ask questions at the FedConnect portal. More information is available at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Specific questions as to the acceptability and allowability of intended cost share for a proposed project in response to a FOA may be posed at this site during the time period when the FOA is open for questions.

The regulations that govern Federal Financial Assistance for DOE are found at 10 Code of Federal Regulations (CFR) Part 600. Specifically, Section 600.313, “Cost sharing and matching” provides guidance on acceptable contributions toward cost share requirements, as well as guidance on the valuation and documentation of contributions, for “for profit” organizations. Below is a summary of these requirements as contained in the CFR. The full CFR section may be viewed using the following link: (<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>).

Acceptable contributions, including cash contributions and third party contributions, must be accepted as part of the recipient's cost sharing or matching if such contributions meet all of the following criteria:

- They are verifiable from the recipient's records.
- They are not included as contributions for any other federally-assisted project or program.
- They are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
- They are allowable under 10 CFR 600.317.
- They are not paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing or matching.
- They are provided for in the approved budget.

- They conform to other provisions of this part, as applicable.

General examples of allowable cost share are shown below. It is up to the applicant to ensure that the cost share proposed in response to this FOA is allowable under 10 CFR 600.313.

- Cash provided directly by the recipient, or a sub-recipient;
- State or local government funds provided to support the proposed project, which were not provided to the State by the federal Government;
- Employees' salaries included in the budget, if paid by the employer (recipient or sub-recipient), and not reimbursed by the federal funding of the project;
- Rental value of buildings or equipment necessary to the success of the proposed project and the value of which is included in the budget for the project;
- Monetary value of SOPO activities to be performed by a third party which are included in the project budget and will not be reimbursed by federal funds.